

I. AMENDMENTS

Amendments to the Specification

Please delete the **Title** and replace with the following new Title:

SYSTEM, METHOD, AND PROGRAM FOR AUTONOMOUSLY ASSIGNING IDENTIFIER
ASSIGNMENTS FOR SECURE COMMUNICATION ON A SHARED NETWORK

Please amend the **Written Description** as follows:

Please amend the paragraph beginning on page 4 at line 19 and extending to page 5, line 5 as follows:

In the conventional systems for distributing an IP address to a communication device that uses an IP address or other identifier for communication on a network, the distribution of the identifier cannot be approved unless information about the device or user is fixedly pre-registered. Therefore, the conventional systems ~~is~~are not convenient for use in an intra-company network for a company where people come and go frequently, such as a network where people from outside the organization (e.g., someone visiting from another business entity or branch office etc.) frequently connect and use the PC terminal on a temporary basis.

Please amend the paragraph beginning on page 5, line 19 and extending over to page 6, line 4 as follows:

An identifier assignment system (apparatus) for assigning an identifier to a communication device that uses a unique identifier to perform communication in accordance with the present invention, ~~is characterized by comprising:~~ includes a managing unit that manages a communication device; and a control unit that receives a request from the communication device, and assigns an identifier to the communication device in response to the request from the communication device if the request is within a predetermined duration of time from the assignment of the identifier to the communication device.

Please amend the paragraph beginning on page 6, line 8 and extending to page 7, line 9 as follows:

Furthermore, the IP address (identifier) distribution system according to the present invention is an IP address distribution system for distributing an IP address to a client device (communication device) connected to the IP network based on distribution request information received from the client device, and may include: a lease condition storage unit that stores lease conditions corresponding to the client device indicating conditions relating to approval/prohibition of IP address distribution; an initial control unit that, when the distribution request information is received from the client device, approves the IP address distribution to the client device and stores initial lease conditions corresponding to the client device into the lease condition storage unit, if the lease conditions corresponding to the client device are not stored in the lease condition storage unit; a condition modification unit that modifies the lease conditions corresponding to the client device stored in the lease condition storage unit; and an IP address distribution approval/prohibition control unit that controls approval/prohibition of IP address distribution to the client device as a transmission source of the distribution request information, based on the lease conditions corresponding to the client device stored in the lease condition storage unit.

Please amend the paragraph beginning on page 7, line 26 and extending to page 8, line 13 as follows:

Furthermore, according to the IP address distribution system of the present invention, the initial lease conditions include a term condition during which the IP address can be distributed, and the condition modification may include: a unit that determines whether or not the term condition in the initial lease conditions stored in the lease condition storage unit corresponding to the client device is satisfied when the distribution request information is received from the client device; and a lease prohibition setting unit that modifies the initial lease conditions to lease conditions for prohibiting the IP address distribution when it is determined that the term condition is not satisfied.

Please amend the paragraph beginning on page 8, line 25 and extending to page 9, line 5 as follows:

Furthermore, according to the IP address distribution system of the present invention, the condition modification unit may include a unit that modifies the initial lease conditions corresponding to the client device to a set of normal lease conditions that are determined in advance based on information relating to execution of specific processing from the client device.

Please amend the paragraph beginning on page 9, line 17 and extending to page 10, line 4 as follows:

Note that, in the case where the lease conditions include the term condition during which the IP address can be distributed, the condition modification unit may also include a unit that extends for a predetermined duration of time the term condition stored in the lease condition storage unit corresponding to the client device when the distribution request information is received from the client device. In this case, as long as the client devices are continuously connected to the IP network, the term condition in the lease conditions corresponding to the client device is not expired, and thus the IP address distribution approval/prohibition control can be continued.

Please amend the paragraph on page 10, lines 5-14 as follows:

Further, in the case where the lease conditions include the term condition during which the IP address can be distributed, the condition modification unit may also include: a unit that determines whether or not the term condition in the lease conditions stored in the lease condition storage unit is satisfied; and a unit that deletes from the lease condition storage unit those lease conditions for which it is determined that the term condition is not satisfied.

Please amend the paragraph on page 10, lines 18-26 as follows:

The condition modification unit may also include a unit that modifies the lease conditions corresponding to the client device stored in the lease condition storage unit based on the information relating to the execution of the specific processing from the management device connected to the IP network. In this case, the lease conditions for the client device can be modified from the management device.

Please amend the paragraph on page 11 lines 12-26 as follows:

The present invention may also be configured as a program for causing a computer that assigns the identifier to the communication device that performs communication using the unique identifier to function as: a managing unit that manages the communication device; and a control unit that receives the request from the communication device, and assigns the identifier to the communication device in response to the request if the request is received within the

predetermined time duration from the assignment of the identifier to the communication device. Furthermore, the present invention may also store such a program into a storage medium that can be read by the computer or other device, machine or the like.

Please amend the heading on page 12, line 22 as follows:

DETAILED DESCRIPTION OF THE ~~INVENTION~~EMBODIMENTS

Please amend the paragraph on page 12, lines 23-25 as follows:

Hereinafter, explanation is made of ~~an~~ embodiments of the present invention, with reference to the drawings.

Please amend the paragraph on page 13, lines 4-9 as follows:

In FIG. 1, a DHCP server 10 (IP address distribution system) and a network manager PC 20 are connected to a predetermined IP network-~~N~~100 (intra-company network). Further, client PC's 31, 32, 33 for performing processing within the IP network-~~N~~100 are connected to the IP network-~~N~~100.

Please amend the paragraph beginning on page 13, line 15 and extending over to page 14, line 4 as follows:

In FIG. 2, the DHCP server 10 sends and receives information to and from client PC 30 connected to the network-~~N~~100. The DHCP server 10 has a database, and in this database are stored: a lease table 11 stating IP addresses distributed to each client PC (MAC address), and the lease term; and a lease status table 12 stating lease conditions indicating conditions determining whether or not the IP address can be distributed to each client PC. The lease status table 12 has entries for a "physical identifier" (MAC address) specifying the client PC, and lease conditions ("valid term" and "state"). The "state" is set with "initial" indicating a lease start condition, "lease OK" indicating IP address distribution is approved, or "lease NO" indicating IP address distribution is prohibited.

Please amend the paragraph on page 14, lines 5-24 as follows:

When the client PC 30 is connected to the IP network (or when the power source is turned on while the client PC 30 is connected to the IP network-~~N 100~~), the client PC 30 sends to the DHCP server 10 information (hereinafter, referred to as a "lease request") for requesting distribution of an IP address. When the DHCP server 10 has received the lease request, the DHCP server 10 performs control to permit/prohibit distribution of the IP address based on the lease conditions described in the lease status table corresponding to the client PC that was the transmission source of the lease request. Further, when the DHCP server 10 has received the lease request, if there is no lease status table 12 for the client PC that was the transmission source of the lease request, then the DHCP server 10 creates a lease status table corresponding to the client PC (physical identifier) in which the lease condition is "state"=initial.

Please amend the paragraph on page 15, lines 6-16 as follows:

The DHCP server 10 executes the processing according to the procedure shown in FIG. 3, each time the lease request is received from the client PC 30. This processing is performed according to a program installed in the DHCP server 10. Note that, this program may be provided to the DHCP server 10 by a unit of a CD-ROM or other storage medium, or may be provided to the DHCP server 10 via a network (including the IP network-~~N 100~~), or may be stored in advance on a ROM, etc. of the DHCP server 10.

Please amend the paragraph beginning on page 15, line 17 and extending over to page 16, line 4 as follows:

According to FIG. 3, when the DHCP server 10 receives the lease request from the client PC 30, the DHCP server 10 determines whether or not there exists the lease status table 12 corresponding to the client PC 30 that was the transmission source (S1). For example, the first time the client PC 30 is connected to the IP network-~~N 100~~ and it is determined that the lease status table 12 does not exist, the DHCP server 10 creates the lease status table 12 corresponding to the client PC 30 received with the lease request (S2). This lease status table 12 may be set with the following initial lease conditions, for example:

"state" = initial;

"valid term" = 2 days.

Please amend the paragraph on page 18, lines 3-5 as follows:

In other words, "state"=initial is updated to "state"=lease OK, and the "valid term" setting value is updated to the value extended by one day (S13).

Please amend the paragraph on page 19, lines 5-16 as follows:

Accordingly, every time the DHCP server 10 receives the release request that is sent when the power source is supplied to the client PC 30 which completed the official registration processing, the DHCP server 10 distributes the IP address according to the processing (S1, S3, S7, S8). Therefore, the client PC 30 can send and receive information on the IP network-~~N~~ 100. Also, the "valid term" is extended by 1 day every time the lease request is outputted. Therefore, the client PC 30 can send and receive information on the IP network repeatedly without performing a special procedure.

Please amend the paragraph beginning on page 19, line 17 and extending over to page 20, line 7 as follows:

For example, in the case where an illegitimate user who knows nothing about the official registration processing connects his own PC to the IP network, the DHCP server 10 performs the processing (S1-S9) to create the lease status table 12 for the PC with the settings for the initial lease conditions, and executes the distribution of the IP address. In other words, the illegitimate user's PC (hereinafter, referred to as the "illegitimate PC") can also send and receive information on the IP network-~~N~~ 100. However, after that, when the value set as the "valid term" in the initial lease conditions elapses and no longer satisfies the initial lease conditions, the following processing prevents the illegitimate PC from being used on the IP network-~~N~~ 100 when the illegitimate PC is connected to the IP network-~~N~~ 100 again.

Please amend the paragraph on page 21, lines 10-14 as follows:

In this way, the IP address is distributed to the illegitimate PC when it makes its first connection, but after the value set in the "valid term" elapses any connection to the IP network-~~N~~ 100 is prohibited.

Please amend the paragraph beginning on page 21, line 24 and ending on page 22, line 22, as follows:

In FIG. 5, the DHCP server 10 sequentially reads out the lease tables 12 stored in the database (S21). Then, the DHCP server 10 confirms the "valid term" in each lease status table 12 (S42S22), and deletes the lease tables 12 where the "valid term" setting values have elapsed (S23).

Please amend the paragraph on page 22, lines 3-18 as follows:

This eliminates subsequent unplanned processing (confirmation processing at S1 in FIG. 3) and managing by the DHCP server 10. Furthermore, as described above, the lease status table 12 that was created when the temporary visitor to the company connected (for the first time) his own PC to the IP network-N 100 (intra-company network) is also deleted when the value set as the "valid term" elapses. Therefore, in the case where he visits the company again after the valid term has elapsed and connects his own PC to the IP network-N 100, a new lease status table 12 set with the initial lease conditions ("state"=initial, "valid term"=2 days) is created. Therefore, this person can use his PC on the IP network as described above without any problem.

Please amend the paragraph beginning on page 22, line 19 and extending over to page 23, line 7 as follows:

Note that, the DHCP server 10 manages the relationship between the IP address distributed as described above and the client PC that the IP address was distributed to by recording the relationship into a lease table 11. The DHCP server 10 can collect the IP addresses saved to each client PC connected to the IP network-N 100 by following a broadcast or multicast communications method. Then, the collected results and the relationships between the client PC's and the IP addresses recorded in the lease table 11 are compared to determine whether or not there exists on the IP network a PC that has saved an illegitimate IP address. Then, the DHCP server 10 can inform the result of this determination to the network manager PC 20.

Please amend the paragraph on page 24, lines 11-20 as follows:

In this way, the network manager PC 20 can be used to change the content of the lease status table 12 stored in the database of the DHCP server 10. Therefore, for example, in a case where an illegitimate PC connected to the IP network-N 100 is detected, the network manager PC 20 can be used to update the lease status table 12 corresponding to the illegitimate PC to:

"state" = lease NO;

"valid term" = extend 1 day.

Please amend the paragraph on page 24, lines 21-22 as follows:

By doing this, subsequent connections to the IP network-~~N~~100 by the illegitimate PC can be prohibited.

Please amend the paragraph beginning on page 24, line 22 extending over to page 25 line 12 as follows:

In accordance with a DHCP server 10 (IP address distribution system) according to the embodiment, the control of whether or not to distribute the IP addresses to each client PC connected to the IP network-~~N~~100 can be performed dynamically based on the lease status table 12 that is created and whose content (lease conditions) are updated for each client PC 30. Then, the IP address is distributed unconditionally and a lease conditions management table set with the initial lease conditions is prepared for the client PC that is connected to the IP network for the first time. Therefore, even if the temporary visitor to the company connects (for the first time) his own PC to the IP network-~~N~~100 (intra-company network, he can use his PC on the network without any problem.

Please amend the paragraph on page 25, lines 13-20 as follows:

Further, after the value set in the "valid term" in the initial lease conditions has elapsed, "state"=initial is updated to "state"=lease NO, in the lease status table 12. Therefore, the connection of the illegitimate PC to the IP network-~~N~~100 after the elapse of the value set in the "valid term" can be prevented without using an authentication server or other resources.